

EXHIBIT 7

PART 4 of 5

EAST Search History

L9	143	8 and mem	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 12:39
L10	2	"6339338".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 12:48
L11	2	"6657455".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 12:48
L12	0	eldridge.in. and electromechanical adj switch	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 13:22
L13	0	eldridge.in. and electro adj mechanical adj switch	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 13:22
L14	0	eldridge.in. and electrical with mechanical adj switch	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 13:22
L15	0	324/754.ccls. and electrical with mechanical adj switch	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 13:23
L16	69	"324"/\$.ccls. and electrical with mechanical adj switch	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 13:36

EAST Search History

L17	0	electrical with mechanical adj switch same probe adj card	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 13:36
L18	4	electrical with mechanical adj switch and probe adj card	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 14:10
L19	2	"6657455".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 14:26
L20	83	324/765.ccls. and probe adj card and temperature and frequency	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 14:48
L21	19	324/765.ccls. and probe adj card and temperature same frequency	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 14:54
L22	42	324/765.ccls. and probe adj card and temperature same "100"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 14:55
L23	10	324/765.ccls. and probe adj card and temperature same "125"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:37
L24	12	"324"/\$.ccls. and burn adj in and probe adj card and "125" same degrees	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:42

EAST Search History

L25	2	"6812718".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:41
L26	2	"7009412".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:41
L27	4	burn adj in same "125" same degrees	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:43
L28	0	burn adj in same degrees	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:43
L29	9	burn adj in same degrees	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:47
L30	0	in same order same test same sensitivity same timing wame write same operations same cpu	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:48
L31	4	in same order same test same sensitivity same timing same write same operations same cpu	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:48
L32	7	4 and testing adj scenario	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 15:48

EAST Search History

L33	4	31 and testing adj scenario	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 16:07
L34	313	burn with in same temperature same degrees and @py<"2004"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 16:08
L35	44	"324"/\$.ccls. and burn with in same temperature same degrees and @py<"2004"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/03/27 16:08



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/410,699	04/24/2006	Romi Mayder	10060220-1	4586

22878 7590 04/03/2007

AGILENT TECHNOLOGIES INC.
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EXAMINER

ISLA RODAS, RICHARD

ART UNIT

PAPER NUMBER

2829

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/03/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

BL

Office Action Summary

Application No.

11/410,699

Applicant(s)

MAYDER ET AL.

Examiner

Richard Isla-Rodas

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 3/26/07
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-18, drawn to an Apparatus and system for processing signals, classified in class 324, subclass 754.
 - II. Claims 19-23, drawn to a method of processing signals at speeds of 100 Mhz, classified in class 324, subclass 765.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus of Group I can be used to calibrate a tester by connecting a tester to a calibration chip, wherein the switches are used to block/allow the passing of information from the chips to the tester.
2. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.
3. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required

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because the inventions require a different field of search (see MPEP § 808.02), restriction for examination purposes as indicated is proper.

4. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art due to their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

5. If Group I is elected, **a further election of species is required** as follows:

- Species of Figures 1, 2 and 3
- Species of Figures 5, 6 and 7

6. The species are independent or distinct because they each disclose patentably different embodiments of the same inventive idea.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim appears generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations

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of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species.

MPEP § 809.02(a).

7. During a telephone conversation with Cynthia Mitchell on March 3, 2007 a provisional election was made without traverse to prosecute the invention of Group II, claims 19-23. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 19-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 19-23 recite a method for processing signals. As such, the claims are directed to an abstract idea (judicial exception). In order to be eligible for patenting, they need to provide a practical application by physical transformation or a useful, concrete, and tangible result. These claims are nonstatutory because they do not have physical transformation or a tangible result. That is, the steps of "selectively operating a set of switches" do not provide a physical transformation of a device nor a tangible result.

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Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US Patent to Eldridge et al. 6,657,455 (Eldridge hereinafter).

In terms of claim 19, Eldridge teaches in Figure 9, a method comprising the steps of connecting a tester (58) and a plurality of devices under test (34) with a multichip (a unit that is capable of connecting to a plurality of chips) module (52), having a plurality of micro electrical switches (Sw2) between a set of connectors to the tester (connectors transmitting signals SYSCLK as well as START) and a second set of connectors to the plurality of devices under test (probes 37 connecting to each switch to its respective DUT as explained in lines 52-54, column 7) and selectively operating each of the plurality of micro electrical switches. As explained in lines 14-16 column 6, the tester 30 controls the states of switches Sw2. That is the tester selectively operate whether they are in the "on" or off" position. Eldridge substantially teaches all of the claimed elements discussed above, except for explicitly stating that switches Sw2 are "electro-mechanical." Although Eldridge clearly shows the switches to be electrical, there is no "explicit" mention that they are also mechanical. However, it has been held that to be entitled to weight in method claims, the recited-structure limitations therein must affect

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the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure. Ex parte Pfeiffer, 1962 C.D. 408 (1961). Therefore, since the electrical switch performs the exact same recited method step (that of connecting the tester to the devices under test), it is its functional equivalent. The choice of using "electro-mechanical" switches over "electrical" switches does not differentiate the claimed method from the method taught by the prior art, since the "electrical" switches perform the method step in a functionally equivalent fashion.

As to claim 22, Eldridge shows the multichip module (52) is mounted directly on a probe card (50).

12. Claims 20, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eldridge in view of the US Patent to McCord 6,681,869 (McCord hereinafter) in view of the US Patent to Akram (6,640,323).

As to claims 20, 21 and 23, Eldridge substantially teaches all of the claimed steps as discussed above, except for the step of operating the multichip module at a speed (frequency) of at least 100 MHz. McCord shows that it's well known in the art that to operate a tester (and consequently the module connecting it to the device under test) at and above the rated clock frequency of the device under test (see lines 29-38 in column 10). For instance, when testing a device which working frequency is 533 MHz, is customary to process the signals at frequencies up to 584MHz. It would have been obvious to one of ordinary skill in the art, to operate the multichip module at 100MHz or more when testing devices whose frequency of operation is below such frequency, as

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taught by McCord, in order to replicate the working conditions of said devices.

Furthermore, Eldridge in view of McCord is silent as to the preferred temperature of operation of the device. Akram teaches a procedure known as static method of burn-in that consist of applying test signals on devices under test at temperatures of 125 degrees Celsius. Such method comprises the step of applying operating voltages on the devices under test that are much higher than their normal operating voltage, thereby increasing the temperature of the devices under test and removing those devices that fail to withstand the temperature and/or voltage (infant mortality of dies), as explained in lines 21-32 in column 2. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to apply higher than normal operating voltages on the devices under test (by operating the multichip module to send higher than normal test signals to the devices under test) thereby increasing the temperature of operation to up to 125 degrees, as taught by Akram, in order to detect early failure of the devices under test (infant mortality of dies) as suggested by Akram in line 10 of column 2.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to Ellingboe et al. (6,490,536), Sunter (6,703,820) and US Patent Application by Akram (2003/0057984).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Isla-Rodas whose telephone number is (571)

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272-5056. The examiner can normally be reached on Monday through Friday 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Isla-Rodas
March 27, 2007



HA TRAN NGUYEN
SUPERVISORY PATENT EXAMINER

Interview Summary	Application No.	Applicant(s)	
	11/410,699	MAYDER ET AL.	
	Examiner	Art Unit	
	Richard Isla-Rodas	2829	

All participants (applicant, applicant's representative, PTO personnel):

(1) Richard Isla-Rodas. (3) _____.

(2) Cynthia Mitchell. (4) _____.

Date of Interview: 26 March 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.
If Yes, brief description: _____.

Claim(s) discussed: 1-23.

Identification of prior art discussed: _____.

Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Ms. Cynthia Mitchell was contacted to request an oral election of Groups. Ms. Mitchell elected Group II drawn to claims 19-23 without traverse.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Notice of References Cited	Application/Control No. 11/410,699	Applicant(s)/Patent Under Reexamination MAYDER ET AL.	
	Examiner Richard Isla-Rodas	Art Unit 2829	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-6,657,455	12-2003	Eldridge et al.	324/765
*	B	US-6,640,323	10-2003	Akram, Salman	714/724
*	C	US-6,801,869	10-2004	McCord, Don	702/117
*	D	US-6,490,536	12-2002	Ellingboe et al.	702/115
*	E	US-6,703,820	03-2004	Sunter, Stephen K.	324/76.15
*	F	US-2003/0057984	03-2003	Akram, Salman	324/755
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes



Application/Control No.

11/410,699

Examiner

Richard Isla-Rodas

Applicant(s)/Patent under Reexamination

MAYDER ET AL.

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SEARCHED

[illegible]

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner

SEARCH NOTES (INCLUDING SEARCH STRATEGY)

[illegible]



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
11/410,699		2829	28M1

Correspondence Address / Fee Address Change

The following fields have been set to Customer Number 63448 on 06/27/2007

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- Maintenance Fee Address

The address of record for Customer Number 63448 is:

VERIGY
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VERIGY
4700 Innovation Drive, Bldg. D1
Fort Collins, Colorado 80528

ATTORNEY DOCKET NO. 10060220-1

Ifw

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Romi Mayder, et al.

Serial No.: 11/410,699

Examiner: Richard Isla Rodas

Filing Date: April 24, 2006

Group Art Unit: 2829

Title: APPARATUS, SYSTEMS AND METHODS FOR PROCESSING SIGNALS BETWEEN A TESTER AND
A PLURALITY OF DEVICES UNDER TEST AT HIGH TEMPERATURES AND WITH SINGLE
TOUCHDOWN OF A PROBE ARRAY

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TRANSMITTAL LETTER FOR RESPONSE/AMENDMENT

Sir:

Transmitted herewith is/are the following in the above-identified application:

- ☒ Response/Amendment ☐ Petition to extend time to respond
☐ New fee as calculated below ☐ Supplemental Declaration
☒ No additional fee (Address envelope to "Mail Stop Amendments")
☐ Other: (Fee \$ _____)

CLAIMS AS AMENDED BY OTHER THAN A SMALL ENTITY						
(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT	(3) NUMBER EXTRA	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEES
TOTAL CLAIMS	23	MINUS	23	= 0	X 50	\$ 0
INDEP. CLAIMS	4	MINUS	4	= 0	X 200	\$ 0
<input type="checkbox"/> FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM					+ 360	\$ 0
EXTENSION FEE	1 ST MONTH 120.00 <input type="checkbox"/>	2 ND MONTH 450.00 <input type="checkbox"/>	3 RD MONTH 1020.00 <input type="checkbox"/>	4 TH MONTH 1590.00 <input type="checkbox"/>	\$ 0	
OTHER FEES						\$ 0
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						\$ 0

Charge \$ 0 to Deposit Account 08-2623. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2623 pursuant to 37 CFR 1.2 5. Additionally please charge any fees to Deposit Account 08-2623 under 37 CFR 1.16, 1.17, 1.19, 1.20 and 1.21. A duplicate copy of this transmittal letter is enclosed.

Respectfully submitted,

Romi Mayder, et al.

By

James A. Sheridan
James A. Sheridan
Attorney/Agent for Applicant(s) 7/3/07

I hereby certify that this correspondence is being Deposited
with the United States Postal Service as First class mail in an
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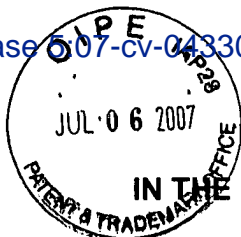
Signature:

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7/3/07

Reg. No. 43,114

Date: July 3, 2007

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 11/410,699 Confirmation No. 4586
Applicant : Romi Mayder, et al.
Filed : 04/24/2006
TC/A.U. : 2829
Examiner : Isla Rodas, Richard
Docket No. : 10060220-1

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT

Sir:

In response to the Office Action of April 3, 2007, please amend the above-identified application as follows:

Amendments to the Specification begin on page 2 of this paper.

Amendments to the Claims are reflected in the listing of claims which begins on page 3 of this paper.

Remarks/Arguments begin on page 9 of this paper.

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Amendments to the Specification:

Please paragraph [0016] with the following amended paragraph:

[0016] Referring to FIGURES 2 and 5, and each multichip module 102 may include a plurality of micro-electromechanical switches 104, which are also ~~referred~~ referred to as MEMs 104, between a first set of connectors 106 to the tester and a second set of connectors 108 to the plurality of devices under test. Each multichip module may include at least one driver 110 to selectively operate each of the plurality of micro-electromechanical switches 104.

Please paragraph [0016] with the following amended paragraph:

[0022] As MEM MCM 102 may be attached to probe card 112 using screws 120 or other fasteners, a new tester does not need to be purchased from a supplier of the ATE system. A customer may simply design a probe ~~card~~ card and attach these MEM MCMs to the probe card and install this new probe card assembly onto an existing ATE system.

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Withdrawn) Apparatus for processing signals between a tester and a plurality of devices under test, the apparatus comprising:

 at least one multichip module, each of the at least one multichip module comprising:

 a plurality of micro-electromechanical switches between a first set of connectors to the tester and a second set of connectors to the plurality of devices under test; and

 at least one driver to selectively operate each of the plurality of micro-electromechanical switches.
2. (Withdrawn) Apparatus in accordance with claim 1, further comprising a probe card on which each one of the at least one multichip module is directly mounted.
3. (Withdrawn) Apparatus in accordance with claim 1, further comprising a plurality of MEMs dice on which the plurality of micro-electromechanical switches are formed.

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4. (Withdrawn) Apparatus in accordance with claim 1, wherein the separate MEMs dice each include eight single pole triple throw switches.

5. (Withdrawn) Apparatus in accordance with claim 1, further comprising an attachment component for each one of the at least one multichip module, and wherein the attachment component mounts the multichip module to a probe card.

6. (Withdrawn) Apparatus in accordance with claim 5, wherein the attachment component includes passageways through the multichip module for a set of screws to mount the multichip module to the probe card.

7. (Withdrawn) Apparatus in accordance with claim 1, wherein the driver is designed to supply an electrostatic potential to activate a MEMs gate associated with each of the plurality of micro-electromechanical switches.

8. (Withdrawn) Apparatus in accordance with claim 1, wherein the at least one driver comprises a vacuum-florescent display driver dice.

9. (Withdrawn) A system for processing signals between a tester and a plurality of devices under test, the system comprising:

at least one multichip module mounted directly on a probe card and operable at a temperature of at least 125° C, and each of the at least one multichip module having a plurality of micro-electromechanical switches between a first set of

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connectors to the tester and a second set of connectors to the plurality of devices under test.

10. (Withdrawn) A system in accordance with claim 9, wherein the second set of connectors attach to a probe array having at least 6000 probe tip needles so as to test at least 6000 test sites of the plurality of devices under test during a single touchdown of the probe array.

11. (Withdrawn) A system for testing a plurality of devices under test, the system comprising:

a set of tester electronics to generate signals for application to the plurality of devices under test, and to receive signals generated by the plurality of devices under test;

a probe card with at least one multichip module mounted thereon, each of the at least one multichip module comprising a plurality of micro-electromechanical switches between a first set of connectors to the set of tester electronics and a second set of connectors to the plurality of devices under test, and a driver to selectively operate each of the plurality of micro-electromechanical switches; and

a probe array to transmit signals between the at least one multichip module of the probe card and the plurality of devices under test.

12. (Withdrawn) A system in accordance with claim 11, wherein each of the at least one multichip modules has a plurality of MEMS dice thereon.

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13. (Withdrawn) A system in accordance with claim 11, wherein each one of the plurality of MEMS dice each contain a plurality of micro-electromechanical switches.

14. (Withdrawn) A system in accordance with claim 13, wherein the switches are single pole triple throw switches.

15. (Withdrawn) A system in accordance with claim 13, wherein the switches are single pole double throw switches.

16. (Withdrawn) A system in accordance with claim 11, wherein the probe card has a maximum diameter of 440 millimeters.

17. (Withdrawn) A system in accordance with claim 16, wherein the probe card forms an opening for the probe array, and the opening has a minimum diameter of 330 millimeters.

18. (Withdrawn) A system in accordance with claim 11, wherein the probe array has at least 6000 probe tip needles so as to test at least 6000 test sites of the plurality of devices under test during a single touchdown of the probe array.

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19. (Amended) A method of processing signals between a tester and a plurality of devices under test, the method comprising:

connecting the tester and the plurality of devices under test with at least one multichip module, each of the at least one multichip module having a plurality of micro-electromechanical switches between a first set of connectors to the tester and a second set of connectors to the plurality of devices under test; and

selectively operating each of the plurality of micro-electromechanical switches to process the signals between individual ones of the first set of connectors to the tester and selected multiple ones of the second set of connectors to the plurality of devices under test.

20. (Original) A method in accordance with claim 19, further comprising operating the at least one multichip module at a speed of at least 100 MHz.

21. (Original) A method in accordance with claim 19, further comprising operating the multichip module at a temperature of at least 125° C.

22. (Original) A method in accordance with claim 19, further comprising mounting each of the at least one multichip module directly on the probe card.

23. (Original) A method in accordance with claim 19, further comprising mounting each of the at least one multichip module directly on the probe card,

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operating the multichip module at a temperature of at least 125° C, and operating the
at least one multichip module at a speed of at least 100 MHz.

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REMARKS/ARGUMENTS

Claims 1-23 remain in this application. Claim 19 has now been amended, without introducing new matter. Paragraphs [0016] and [0022] have been amended to correct minor typographical errors.

1. Restriction Requirement

Applicants affirm the election of claims 19-23 previously made on March 3, 2007.

2. Rejection of Claims 19-23 Under 35 U.S.C. 101

Claims 19-23 stand rejected under 35 U.S.C. 101 because the claimed invention is drawn to non-statutory subject matter.

In response, Applicants have now amended independent claim 19 to call for a method of processing signals between a tester and a plurality of devices under test, the method comprising connecting the tester and the plurality of devices under test with at least one multichip module, each of the at least one multichip module having a plurality of micro-electromechanical switches between a first set of connectors to the tester and a second set of connectors to the plurality of devices under test, and selectively operating each of the plurality of micro-electromechanical switches to process the signals between individual ones of the first set of connectors to the tester and selected multiple ones of the second set of connectors to the plurality of devices under test.

Applicants submit that connecting a tester and a plurality of devices under test with at least one multichip module, and selectively operating each of the plurality of micro-electromechanical switches to process the signals between individual ones of

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the first set of connectors to the tester and selected multiple ones of the second set of connectors to the plurality of devices under test produces a useful, concrete and tangible result. In other words, the present invention as claimed provides a method of processing signals between a tester and a plurality of devices under test by multiplexing connectors to the tester with connectors to the plurality of the devices under test. Accordingly, claim 19 is believed to be allowable.

Claims 20-23, which each depend directly from independent claim 19, are believed to be allowable for at least the same reasons as claim 19.

3. Rejection of Claims 19 and 22 Under 35 U.S.C. 103(a)

Claims 19 and 22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Eldridge et al. (U.S. Patent No. 6,657,455; referred to herein as "Eldridge".)

Claim 19, as amended, calls for a method of processing signals between a tester and a plurality of devices under test, the method comprising connecting the tester and the plurality of devices under test with at least one multichip module, each of the at least one multichip module having a plurality of micro-electromechanical switches between a first set of connectors to the tester and a second set of connectors to the plurality of devices under test, and selectively operating each of the plurality of micro-electromechanical switches to process the signals between individual ones of the first set of connectors to the tester and selected multiple ones of the second set of connectors to the plurality of devices under test.

Eldridge does not teach or suggest selectively operating micro-mechanical switches to process signals between individual ones of connectors to a tester and selected multiple ones of connectors to a plurality of devices under test. Eldridge teaches away from the present invention inasmuch as the switches are transistor switches, and these transistor switches are disposed between devices under test and a power supply (rather than between a tester and devices under test). In addition, the specification of the present invention discloses that micro-electromechanical switches when compared to other switches have advantageous properties such as

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lower cost, higher reliability, and higher temperature operation. Accordingly, claim 19 is believed to be allowable.

Claim 22, which depends directly from independent claim 19, is believed to be allowable for at least the same reasons as claim 19.

4. Rejection of Claims 20, 21 and 23 Under 35 U.S.C. 103(a)

Claims 20, 21 and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Eldridge in view of McCord (U.S. Patent No. 6,681,869; referred to herein as "McCord") in view of Akram (U.S. Patent No. 6,640,323; referred to herein as "Akram")

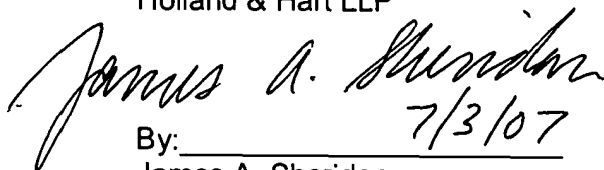
Claims 20, 21 and 23 each depend directly from independent claim 19. As discussed above, Eldridge teaches away from the present invention of claim 19. Furthermore, neither McCord nor Akram teach or suggest a method of processing signals between a tester and a plurality of devices under test which includes selectively operating micro-mechanical switches to process signals between individual ones of connectors to a tester and selected multiple ones of connectors to a plurality of devices under test. Accordingly, claims 20, 21 and 23 are believed to be allowable for at least the same reason as claim 19.

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Conclusion

In light of the amendments and remarks provided herein, Applicants respectfully request the timely issuance of a Notice of Allowance.

Respectfully submitted,
Holland & Hart LLP


By: _____ 7/3/07

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PTO/SB/06 (08-03)

Approved for use through 7/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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PATENT APPLICATION FEE DETERMINATION RECORD						Application or Docket Number 11410699	
Substitute for Form PTO-875							
CLAIMS AS FILED – PART I							
(Column 1)		(Column 2)		(Column 3)			
FOR	NUMBER FILED	NUMBER EXTRA					
BASIC FEE (37 CFR 1.16(a))							
TOTAL CLAIMS (37 CFR 1.16(c))		minus 20 =		*			
INDEPENDENT CLAIMS (37 CFR 1.16(b))		minus 3 =		*			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(d))							
* If the difference in column 1 is less than zero, enter "0" in column 2.							
CLAIMS AS AMENDED – PART II							
(Column 1)		(Column 2)		(Column 3)			
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA				
	Total (37 CFR 1.16(e))	*	Minus	**	=		
	Independent (37 CFR 1.16(b))	*	Minus	***	=		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))						
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA				
	Total (37 CFR 1.16(e))	*	Minus	**	=		
	Independent (37 CFR 1.16(b))	*	Minus	***	=		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))						
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA				
	Total (37 CFR 1.16(e))	*	Minus	**	=		
	Independent (37 CFR 1.16(b))	*	Minus	***	=		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(d))						
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>							

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	457	324/754-765.ccls. and switch with prob\$4 and (DUT or device or chip or unit or component) with test\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:21
L2	192	1 and probe with card	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:22
L3	177	2 not agilent	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:22
L4	33	(electromechanical or means) same prob\$4 with (card or module or apparatus) and 324/754.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:23
L7	38	("4144536" "5101149" "5422562" "5502671" "5721495" "5760599" "5822166").PN. OR ("6339338").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/09/24 13:25
L8	31	("3676777" "3895297" "4631724" "4712058" "4746855" "4849691" "5025344" "5032789" "5057774" "5101149" "5101151" "5101153" "5146161" "5294883" "5371457" "5392293" "5404099" "5406217" "5412315" "5414352").PN. OR ("5721495").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/09/24 13:25
L9	27	("4336495" "4398146" "4628253" "4714876" "4733168" "4779041" "4967151" "4970454" "5012185" "5019772" "5030904").PN. OR ("5294883").URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/09/24 13:26
L10	177	2 not agilent	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:27

EAST Search History

L11	174	3 and (test\$4 with (device or system or apparatus))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:29
L14	48	324/754-765 and (test\$4) same prob\$4 and (test\$4 with (device or system or apparatus))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:31
S1	12	324/415.ccls. and probe	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 11:32
S2	2	324/168,180.ccls. and probe	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 11:32
S3	1	324/168,180.ccls. and dut	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 11:32
S4	318	324/168,180.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 11:33
S5	52	324/754.ccls. and switch with probe adj card	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 11:47
S6	105	324/754-765.ccls. and switch with probe adj card	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/24 13:20

EAST Search History

S7	101	S6 not agilent	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 14:24
S8	102630	electromechanical	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 14:24
S9	105	electromechanical with switch\$2 same probe	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 14:24
S10	105	S9 not agilent	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 14:25
S11	75	S9 and @py<"2004"	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 14:25
S12	50	("3493858" "4500836" "4517512" "5055780" "5070297" "5506510").PN. OR ("5736850"). URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2007/09/18 15:00
S13	868	mccord.in.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 15:08
S14	0	S13 amd tester	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 15:08

EAST Search History

S15	7	S13 and tester	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2007/09/18 15:09
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UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/410,699	04/24/2006	Romi Mayder	10060220-1	4586
63448 VERIGY 4700 INNOVATION WAY, BLDG D1 FORT COLLINS, CO 80528	7590 09/27/2007		EXAMINER ISLA RODAS, RICHARD	
			ART UNIT 2829	PAPER NUMBER
			MAIL DATE 09/27/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	11/410,699		MAYDER ET AL.	
	Examiner		Art Unit	
	Richard Isla-Rodas		2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim 19 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claims 22 and 23 are objected to because of the following informalities:

Claims 22 and 23 recite the limitation "the probe card" in line 2 of each claim. It appears that it should be "a probe card".

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US Patent to Legal (5,736,850) in view of the US Patent to Leggett et al. 6,098,142 (Leggett hereinafter).

In terms of claims 19 and 22, legal teaches in Figure 2A, a method of processing signal between a tester (110) and a plurality of devices under test (cells on top of wafer

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122), with at least one multichip module (216) mounted directly on a probe card (218), the module having a plurality of mechanical switches (see lines 59-61 in column 4) between a first set of connectors (DRIVER/RECEIVERS) to the tester (110) and a second set of connectors (220) to the plurality of devices under test (cells on wafer 122), and selectively operating each of the plurality of mechanical switches to process (receive and transmit) the signals between individual ones of the first set of connector to the tester and selected multiple ones of the second set of connectors to the plurality of devices under test (The relays provide independent conductive paths between the tester and the probes, said relays can be actuated to connect one of the group of drivers to one of the test sites as explained in lines 50-58, column 4). Legal, teaches that the mechanical switches may also be switches that have control inputs (electrical) or a similar structure (see lines 61-64 in column 4). Legal however, does not explicitly state the use of micro electro-mechanical switches. Nevertheless, it has been held that to be entitled weight in method claims, the recited-structure limitations therein (electro-mechanical switch) must affect the method in a manipulative sense, and not to amount to the mere claiming of a use of a particular structure (in the immediate case, the preferred use of electro-mechanical switches). Ex parte Pfeiffer, 1962 C.D. 408 (1961).

Furthermore, the use of electromechanical switches as preferred structures would have been well known to someone in the art at the time of the invention, as evidenced by Leggett. Leggett, teaches in lines 26-30 of column 3, that electromechanical switches can be used as switches for transmission. Therefore, because these two switches (mechanical and electromechanical) were art-recognized

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equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute mechanical for electro-mechanical.

5. Claims 20, 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Legal in view of Leggett, further in view of the US Patent to McCord 6,681,869 (McCord hereinafter) and further in view of the US Patent to Akram 6,640,323.

As to claims 20, 21 and 23, Legal in view of Leggett substantially teaches all of the claimed steps as discussed above including mounting the multichip module (216) directly on a probe card (218). Legal in view of Leggett does not explicitly teach however, the step of operating the multichip module at a speed (frequency) of at least 100 MHz. McCord shows that it's well known in the art that to operate a tester (and consequently the module connecting it to the device under test) at and above the rated clock frequency of the device under test (see lines 29-38 in column 10). For instance, when testing a device which working frequency is 533 MHz, is customary to process the signals at frequencies up to 584MHz. It would have been obvious to one of ordinary skill in the art, to operate the multichip module at 100MHz or more when testing devices whose frequency of operation is below such frequency, as taught by McCord, in order to replicate the working conditions of said devices. Furthermore, Legal in view of McCord is silent as to the preferred temperature of operation of the device. Akram teaches a procedure know as static method of burn-in that consist of applying test signals on devices under test at temperatures of 125 degrees Celsius. Such method comprises the step of applying operating voltages on the devices under test that are much higher

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than their normal operating voltage, thereby increasing the temperature of the devices under test and removing those devices that fail to withstand the temperature and/or voltage (infant mortality of dies), as explained in lines 21-32 in column 2. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to apply higher than normal operating voltages on the devices under test (by operating the multichip module to send higher than normal test signals to the devices under test) thereby increasing the temperature of operation to up to 125 degrees, as taught by Akram, in order to detect early failure of the devices under test (infant mortality of dies) as suggested by Akram in line 10 of column 2.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to Granicher et al. (7,245,134) and Roy et al. (6,678,850).

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Isla-Rodas whose telephone number is (571) 272-5056. The examiner can normally be reached on Monday through Friday 8 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Isla-Rodas
September 18, 2007


HA TRAN NGUYEN
SUPERVISORY PATENT EXAMINER

Notice of References Cited

Application/Control No.

11/410,699

Applicant(s)/Patent Under
Reexamination
MAYDER ET AL.

Examiner

Richard Isla-Rodas

Art Unit

2829

Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,245,134	07-2007	Granicher et al.	324/754
*	B	US-6,678,850	01-2004	Roy et al.	714/730
*	C	US-6,098,142	08-2000	Leggett et al.	710/220
*	D	US-5,736,850	04-1998	Legal, Dennis Andrew	324/158.1
*	E	US-6,801,869	10-2004	McCord, Don	702/117
*	F	US-6,640,323	10-2003	Akram, Salman	714/724
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

11/410,699

Examiner

Richard Isla-Rodas

MAYDER ET AL.

Art Unit

2829

[illegible]

INTERFERENCE SEARCHED			
Class	Subclass	Date	Examiner

[illegible]



APPLICATION NUMBER	FILING OR 371(c) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
11/410,699	04/24/2006	Romi Mayder	10060220-1

CONFIRMATION NO. 4586

63448
VERIGY
4700 INNOVATION WAY, BLDG D1
FORT COLLINS, CO80528

Title: Apparatus, systems and methods for processing signals between a tester and a plurality of devices under test at high temperatures and with single touchdown of a probe array

Publication No. US-2007-0247140-A1

Publication Date: 10/25/2007

NOTICE OF PUBLICATION OF APPLICATION

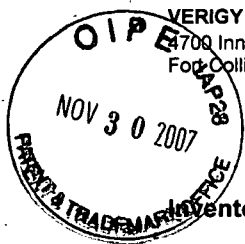
The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publicly available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.



ATTORNEY DOCKET NO. 1006Q220-1

AF/Ifw

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Romi Mayder, et al.

Serial No.: 11/410,699

Examiner: Richard Isla Rodas

Filing Date: April 24, 2006

Group Art Unit: 2829

Title: APPARATUS, SYSTEMS AND METHODS FOR PROCESSING SIGNALS BETWEEN A TESTER AND A PLURALITY OF DEVICES UNDER TEST AT HIGH TEMPERATURES AND WITH SINGLE TOUCHDOWN OF A PROBE ARRAY

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria VA 22313-1450

TRANSMITTAL LETTER FOR RESPONSE/AMENDMENT

Sir:

Transmitted herewith is/are the following in the above-identified application:

- ☒ Response/Amendment ☐ Petition to extend time to respond
☐ New fee as calculated below ☐ Supplemental Declaration
☒ No additional fee (Address envelope to "Mail Stop Amendments")
☐ Other: (Fee \$____)

CLAIMS AS AMENDED BY OTHER THAN A SMALL ENTITY						
(1) FOR	(2) CLAIMS REMAINING AFTER AMENDMENT	(3) NUMBER EXTRA	(4) HIGHEST NUMBER PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	(6) RATE	(7) ADDITIONAL FEES
TOTAL CLAIMS	23	MINUS	23	= 0	X 50	\$ 0
INDEP. CLAIMS	4	MINUS	4	= 0	X 200	\$ 0
<input type="checkbox"/> FIRST PRESENTATION OF A MULTIPLE DEPENDENT CLAIM					+ 360	\$ 0
EXTENSION FEE	1 ST MONTH 120.00 <input type="checkbox"/>	2 ND MONTH 450.00 <input type="checkbox"/>	3 RD MONTH 1020.00 <input type="checkbox"/>	4 TH MONTH 1590.00 <input type="checkbox"/>		\$ 0
OTHER FEES						\$ 0
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT						\$ 0

Charge \$0 to Deposit Account 08-2623. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2623 pursuant to 37 CFR 1.2 5. Additionally please charge any fees to Deposit Account 08-2623 under 37 CFR 1.16, 1.17, 1.19, 1.20 and 1.21. A duplicate copy of this transmittal letter is enclosed.

Respectfully submitted,

Romi Mayder, et al.

By

Gregory W. Osterloth
Attorney/Agent for Applicant(s)

I hereby certify that this correspondence is being Deposited with the United States Postal Service as First class mail in an envelope addressed to: Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.

Date of Deposit: November 27, 2007

Typed Name: Gregory W. Osterloth

Signature:

Reg. No. 36,232

Date: November 27, 2007

Telephone No. (303) 295-8205



**Reply under 37 CFR 1.116 –
Expedited Procedure –
Technology Center 2800**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 11/410,699
Applicant : Romi Mayder, et al.
Filed : 04/24/2006
TC/A.U. : 2829
Examiner : Isla Rodas, Richard

Confirmation No. 4586

Docket No. : 10060220-1

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLY UNDER 37 CFR 1.116 – EXPEDITED PROCEDURE

Sir:

In response to the Final Office Action of September 27, 2007, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 6 of this paper.

Appl. No. 11/410,699
Reply dated Nov. 27, 2007
Reply to Final Office Action of Sep. 27, 2007

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Withdrawn) Apparatus for processing signals between a tester and a plurality of devices under test, the apparatus comprising:
 - at least one multichip module, each of the at least one multichip module comprising:
 - a plurality of micro-electromechanical switches between a first set of connectors to the tester and a second set of connectors to the plurality of devices under test; and
 - at least one driver to selectively operate each of the plurality of micro-electromechanical switches.
2. (Withdrawn) Apparatus in accordance with claim 1, further comprising a probe card on which each one of the at least one multichip module is directly mounted.
3. (Withdrawn) Apparatus in accordance with claim 1, further comprising a plurality of MEMs dice on which the plurality of micro-electromechanical switches are formed.
4. (Withdrawn) Apparatus in accordance with claim 1, wherein the separate MEMs dice each include eight single pole triple throw switches.
5. (Withdrawn) Apparatus in accordance with claim 1, further comprising an attachment component for each one of the at least one multichip module, and wherein the attachment component mounts the multichip module to a probe card.

Appl. No. 11/410,699
Reply dated Nov. 27, 2007
Reply to Final Office Action of Sep. 27, 2007

6. (Withdrawn) Apparatus in accordance with claim 5, wherein the attachment component includes passageways through the multichip module for a set of screws to mount the multichip module to the probe card.

7. (Withdrawn) Apparatus in accordance with claim 1, wherein the driver is designed to supply an electrostatic potential to activate a MEMs gate associated with each of the plurality of micro-electromechanical switches.

8. (Withdrawn) Apparatus in accordance with claim 1, wherein the at least one driver comprises a vacuum-florescent display driver dice.

9. (Withdrawn) A system for processing signals between a tester and a plurality of devices under test, the system comprising:

at least one multichip module mounted directly on a probe card and operable at a temperature of at least 125° C, and each of the at least one multichip module having a plurality of micro-electromechanical switches between a first set of connectors to the tester and a second set of connectors to the plurality of devices under test.

10. (Withdrawn) A system in accordance with claim 9, wherein the second set of connectors attach to a probe array having at least 6000 probe tip needles so as to test at least 6000 test sites of the plurality of devices under test during a single touchdown of the probe array.

11. (Withdrawn) A system for testing a plurality of devices under test, the system comprising:

a set of tester electronics to generate signals for application to the plurality of devices under test, and to receive signals generated by the plurality of devices under test;

a probe card with at least one multichip module mounted thereon, each of the at least one multichip module comprising a plurality of micro-electromechanical switches